Listing of Claims:

1. (Currently amended) A high-efficiency LED-based illumination system with improved color rendering, simultaneously exploiting the color-mixing principle of blue, green and red (RGB mixing) and the principle of converting a primary radiation emitted by an LED into light with a longer wavelength by means of a phosphor which at least partially absorbs this radiation, at least two LEDs being used, of which a first LED emits primarily in the range from 340 nm to 470 nm (peak wavelength), ~~in particular at least 420 nm,~~ and a second LED emits in the red region at 600 to 700 nm (peak wavelength), wherein the green component is produced by the primary radiation of the first LED being at least partially converted by a green-emitting phosphor, the green-emitting phosphor used being a phosphor from the class of the oxynitridosilicates, having a cation M and the empirical formula $M_{(1-c)}Si_2O_2N_2:D_c$, where M comprises at least 50 mol% of Sr as a constituent ~~and M = Sr alone or M = $Sr_{(1-x-y)}Ba_yCa_x$ with $0 \leq x+y < 0.5$ being used~~, D represents an activator comprising Eu, c is within the range of 0.001 to 0.2, and the oxynitridosilicate completely or predominantly comprising ~~the~~ high-temperature-stable modification ~~HT~~.

2. (Previously presented) The illumination system as claimed in claim 1, wherein the system contains groups of LEDs of the same type.

3. (Currently amended) The illumination system as claimed in claim 1, wherein three LEDs or groups of LEDs are used, the primary radiation of the first LED being completely converted into green secondary emission, with a third LED emitting blue light, ~~in particular with a peak wavelength in the range from 430 to 470 nm~~.

4. (Previously presented) The illumination system as claimed in claim 1, wherein the system includes control electronics which impart dimmability or targeted controllability of properties of the system, such as the luminous color.

5. (Currently amended) The illumination system as claimed in claim 3, wherein the system includes control electronics which control the brightness of the individual LEDs or groups of LEDs individually, so that a tunable illumination system is formed for a range of color temperatures which covers at least 1000 K within a band from 2500 to 5000 K, with an Ra of at least 85, ~~in particular at least 90,~~ for each selected color temperature within the selected range.

6. (Previously presented) The illumination system as claimed in claim 1, wherein precisely two LEDs or groups of LEDs are used, the primary radiation of the first LED being only partially converted into green secondary emission, in which case both the green component and the blue component are emitted by the first LED.

7. (Previously presented) The illumination system as claimed in claim 6 ~~1~~, wherein the green secondary emission has a dominant wavelength in the range from 550 to 570 nm.

8. (Cancelled).

9. (Currently amended) The illumination system as claimed in claim 1, wherein M further comprises ~~Sr represents the majority of M and a proportion of M, in particular up to 30 mol%, is replaced by~~ at least one of Ba and/~~or~~ Ca.

10. (Currently amended) The illumination system as claimed in claim 1, wherein ~~a proportion of~~ M further comprises at least one of ~~, in particular up to 30 mol%, is replaced by~~ Li, ~~and/or~~ La, ~~and/or~~ Zn, ~~and/or~~ Na, ~~and/or~~ and Y.

11. (Cancelled)

12. (Currently amended) The illumination system as claimed in claim 1, wherein ~~a proportion of Eu, in particular up to 30 mol%, is replaced by~~ the activator further comprises Mn.

13. (Curently amended) The illumination system as claimed in claim 1, wherein the primary radiation source used is a light-emitting diode based on InGaN with a peak wavelength in the range from 420 to 470 nm~~, in particular with its peak wavelength in the range from 440 to 465 nm~~.

14. (Currently amended) The illumination system as claimed in claim 1, wherein the color mixing using the RGB principle realizes a white-emitting illumination system with a color temperature of from 2500 to 5000 K~~, in particular 3500 to 5000 K~~.

15. (Currently amended) The illumination system as claimed in claim 1, wherein a plurality of light-emitting components are arranged in a cavity~~, in particular a luminescence conversion LED which imparts blue and green components of the emission simultaneously and an LED which imparts red components of the emission directly~~.

16. (Currently amended) The illumination system as claimed in claim 1, wherein the full width at half maximum of the emission of the oxynitridosilicate is less than 90 nm~~, preferably less than 80 nm~~.

17. (Previously presented) The illumination system as claimed in claim 1, wherein the system includes electronics for actuating individual LEDs or groups of LEDs.

18. (New) The illumination system as claimed in claim 1, wherein the first LED emits primarily in the range from 420 nm to 470 nm (peak wavelength).

20. (New) The illumination system as claimed in claim 3, wherein the third LED emitting blue light with a peak wavelength in the range from 430 to 470 nm.

21. (New) The illumination system as claimed in claim 5, wherein the Ra is at least 90.

22. (New) The illumination system as claimed in claim 9, wherein M comprises up to 30 mol% of the at least one of Ba and Ca.

23. (New) The illumination system as claimed in claim 10, wherein M comprises up to 30 mol% of the at least one of Li, La, Zn, Na, and Y.

24. (New) The illumination system as claimed in claim 12, wherein D comprises up to 30 mol% Mn.

25. (New) The illumination system as claimed in claim 13, wherein the light-emitting diode based on InGaN emits a peak wavelength in the range from 440 to 465 nm.

26. (New) The illumination system as claimed in claim 14, wherein the color temperature is 3500 to 5000 K.

27. (New) The illumination system as claimed in claim 1, wherein a plurality of light-emitting components are arranged in a cavity and comprise a luminescence conversion LED

which imparts blue and green components of the emission simultaneously and an LED which imparts red components of the emission directly.

28. (New) The illumination system as claimed in claim 16, wherein the full width at half maximum of the emission of the oxynitridosilicate is preferably less than 80 nm.

29. (New) A high-efficiency LED-based illumination system with improved color rendering, simultaneously exploiting the color-mixing principle of blue, green and red (RGB mixing) and the principle of converting a primary radiation emitted by an LED into light with a longer wavelength by means of a phosphor which at least partially absorbs this radiation, at least two LEDs being used, of which a first LED emits primarily in the range from 340 nm to 470 nm (peak wavelength), and a second LED emits in the red region at 600 to 700 nm (peak wavelength), wherein the green component is produced by the primary radiation of the first LED being at least partially converted by a green-emitting phosphor, the green-emitting phosphor used being a phosphor from the class of the oxynitridosilicates, having a cation M and the empirical formula $M_{(1-c)}Si_2O_2N_2:D_c$, where M comprises at least 50 mol% of Sr as a constituent, D represents an activator comprising Eu, c is within the range of 0.001 to 0.2, the oxynitridosilicate completely or predominantly comprising high-temperature-stable modification, and a part of the group SiN in the oxynitridosilicate of formula $M_{(1-c)}Si_2O_2N_2:D_c$ is replaced by the group AlO.

30. (New) The illumination system as claimed in claim 29,wherein up to 30 mol% of the group SiN in the oxynitridosilicate of formula $M_{(1-c)}Si_2O_2N_2:D_c$ is replaced by the group AlO